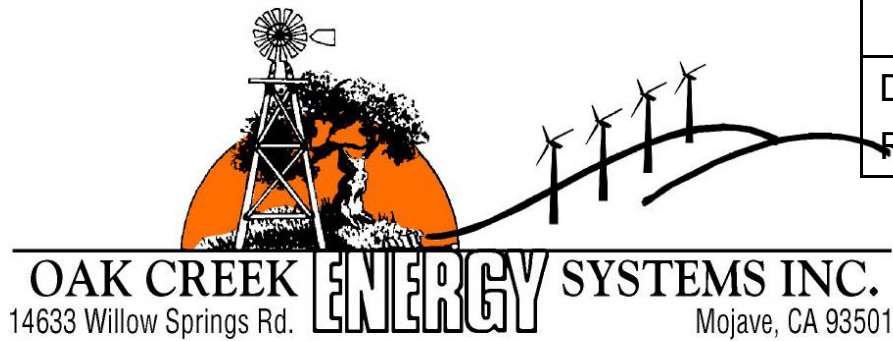


DOCKET

06-OII-1

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Phone (661) 822-6853 FAX (661) 822-5991

October 9, 2006

California Energy Commission
Dockets Office, MS-4
RE: Docket No. 06-011-1
1516 9th Street
Sacramento, CA 95814-5512

cc: docket@energy.state.ca.us

RE: "DEVELOPING STATEWIDE AVIAN GUIDELINES"/COMMENTS BY OAK CREEK
ENERGY SYSTEMS CORPORATION- Docket No. 06-011-1

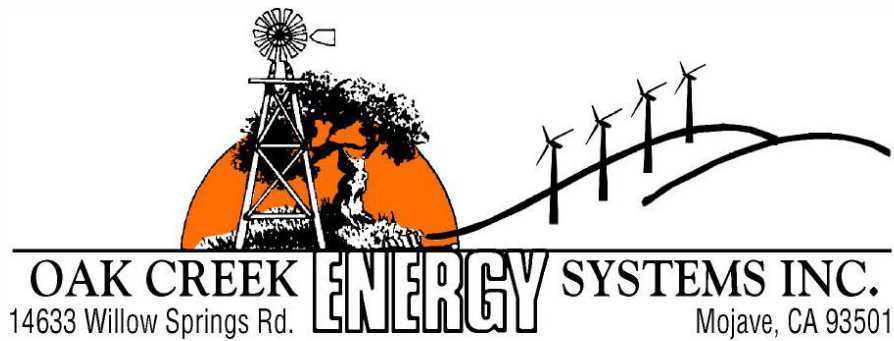
Dear Sirs:

Oak Creek Energy Systems, Inc., appreciates the opportunity to participate in your public workshops regarding the development of statewide guidelines for reducing bird and bat impacts from wind energy development.

General Comments

The emphasis on wind energy, compared to the losses of birds from other causes, should be proportionately considered. Bird mortalities caused by trucks and automobiles and reflective glass, for example, far exceed those even imaginable that occur at the most sensitive wind farm facilities. Consequently, we believe that the relative bird losses from wind farms and suggested mitigations must be kept in perspective. Avoidance of high risk locations in the field by optimizing turbine siting should be the first tack taken. These actions are taken in accordance with the California Environmental Quality Act and state and federal mitigation guidelines.

As noted during the workshop, guidelines are guidelines, not statutes or regulations. As well as one could draft guidelines, even if all agreed, there are always going to be particular projects or circumstances that cannot or are not able to conform to the guidelines. Flexibility is the agency key for the use of guidelines, particularly in a state that encompasses such a wide variety of habitats, topography, geology, climate, birds and other wildlife. A set of standard fixed guidelines for the entire state is not possible because of those and other variables. The topics of the guidelines may be consistent, but how they are dealt with will necessarily need to be different for different areas. For example, even taking two separate fields, identical in every biological and physical feature except location, and the fact that one may be within 1-2 miles of a dairy or feedlot may significantly alter



impacts of the one site, even though on-site characteristics may be exactly the same. Dense bird populations because of the high density of insects created by the presence of the dairy or feedlot could in fact, potentially require specialized measures at one wind farm and not the other.

The following comments address some of the questions posed during the September 27, 28, 2006, workshop

September 27, 2006:

1. When should a lead agency require compensatory mitigation? When should a lead agency require post-construction monitoring?

Mitigation under CEQA is only required for significant impacts. Even a taking of a single listed bird species or bird protected by the Migratory Bird Treaty Act is not, under most circumstances, going to be considered a significant impact. Compensatory mitigation should be required only when there is a long-term significant loss of habitat or impact to a species population that are substantial.

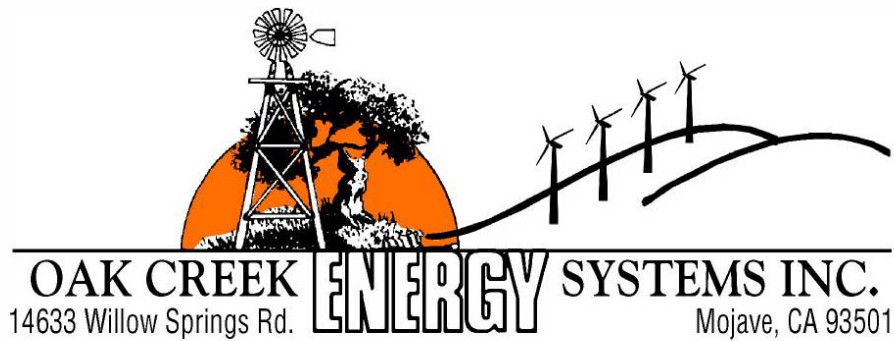
Post-construction monitoring may be necessary in sensitive areas if pre-planning does not result in relocation of a facility. It may be required to prevent speculative decisions being made, as speculative analyses are precluded under CEQA.

2. What is the appropriate role for CDFG and USFWS to assist lead agencies in determining if data from other studies are applicable and adequate for developing impact assessments and mitigation measures?

Again, decisions should be based on the best available science, and not speculation. If the wildlife management agencies have data that is new, different or could be contributory to developing a sound decision, then they should supply that data to the applicant and lead agencies. However, the ultimate decisions as to significance are seated with the local agency(ies).

The CDFG has a requirement under CEQA to review and comment on environmental documentation. Both agencies have requirements under FESA and CESA and several other laws which make them trustee agencies under certain conditions.

Adequacy of studies should also be based on existing information and the type of work to be done, e.g. is it an abandonment and replacement, or addition of turbines to an existing field under some type of limit that is less than significant? Certainly a large new field to



be developed in a highly sensitive biological area may require more or specialized field studies compared to a site which supports no sensitive habitat or species.

3. What criteria should be established for using pre-existing information for impact determinations, including deciding if a categorical exemption is appropriate?

Again, the definition of significant differences can be useful here. Certainly classes of categorical exclusions are appropriate, as would be the exceptions, as noted under the CEQA guidelines.

The applicant should be able to show that the important regional characteristics, site characteristics (physical and biological) and the proposed structural facilities are consistent with those from which the pre-existing data were collected.

4. How much discussion should the guidelines include about impacts due to habitat loss?

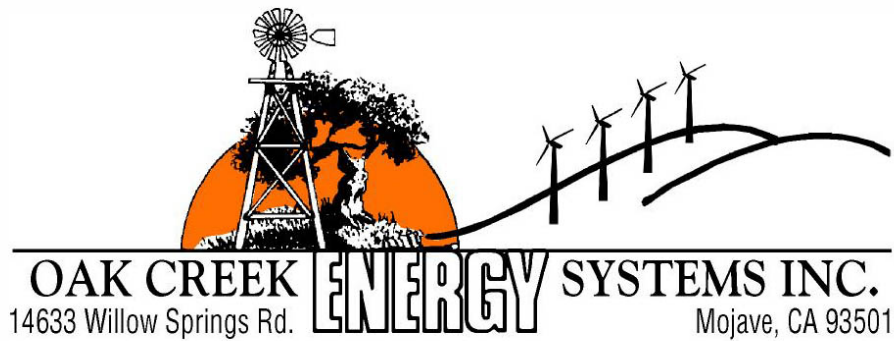
Not all types of habitat loss are going to be significant. A categorical exclusion should be possible for small percentages of a species habitat. Nesting habitat losses would be potentially more significant than losses of peripheral habitat or specialized foraging habitats required for some species, .e.g mudflats, riparian, wetlands, etc.

5. How do the displacement and disturbance impacts due to wind energy development in California compare to other states and countries?

Considering local and regional energy needs, these issues may not be relevant. Considering California's diverse biology and ecology, e.g we have over 5000 species of plants, more than any other state, impacts from other states may not be comparable. However, unique or innovative avoidance and mitigation measures may certainly be worth evaluating.

6. What are the necessary steps to develop a cumulative impact analysis and what should the scope of that analysis be?

This question poses an interesting dilemma, as cumulative impacts analyses required by CEQA are legally different than those required if threatened or endangered species are also affected. But for at least CEQA, guidelines already exist relative to determining cumulative impacts



7. How much detail should the guidelines provide on risk assessment protocol (e.g., should the guidelines specify how to develop a collision risk estimate)?

The guidelines may want to consider including what parameters may need to be addressed and examples of procedures could be included. However, specifying that particular formulas are required to be used will limit or discourage innovation and research in developing improved methods for making these determinations.

8. What kind of data from other studies could be included in the guidelines to assist in evaluating potential impacts (e.g., a table showing flight-height data or fatality estimates for collision susceptible species from other studies)?

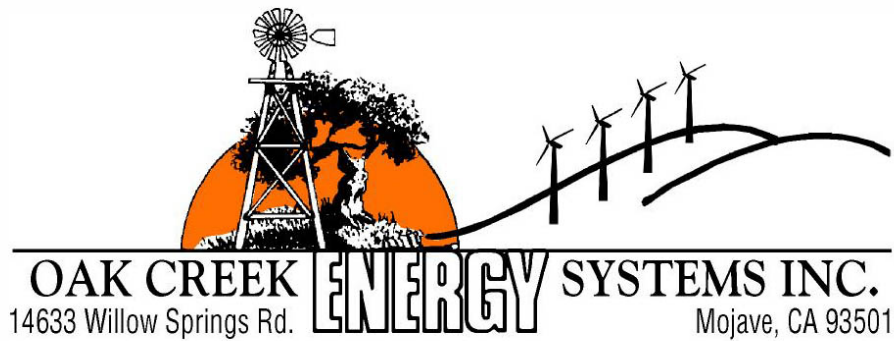
Such data may or may not be comparable to all sites, based on topography, habitat types etc. Such data for examples may be useful, but their strict application may not be totally appropriate. Such data should specify its location and origins if it is provided. Also source citations and contacts should be provided.

9. How much analysis should pre-permitting studies include on potential risk to populations due to wind energy development?

The analyses for farm siting should focus on populations, not individuals. That is the primary manner in which significance is determined under CEQA.

10. How should Ecological Risk Assessment be used to evaluate potential impacts to bird and bat populations?

As ecological risk assessment (ERA) was specifically designed for determining impacts from hazardous and toxic materials, based on specific uniform toxicological tests, among other criteria, the direct application of this process may not be directly applicable to the impacts of wind farms to bats and birds. No specific tests are known that can determine the probability that a bird is going to be killed by a particular turbine at all types of locations. Each chemical has set impacts to certain species. That is not true for turbines. Many different kinds of turbines exist and their applicability is unlimited in a wide variety of topographical and ecological situations. Consequently, developing a test or degree of impact that is widely applicable, would be extremely difficult. To use ERA would likely take some years of modification and then would likely need to be developed from regional perspectives.



We also have some concern about the application of metadata developed across the entire state to site specific cases. Such data simply is not going to be able to be appropriately applied across wide circumstances.

11. What type of ongoing forum would be useful to receive comments/suggestions to improve survey protocols and mitigation recommendations?

Certainly a forum is needed to track those protocols which may not work, be effective, or that may need to be modified. Counties or applicants could submit the results of those protocols to the CEC or other appropriate entity so that their solutions may be able to be vetted in a public forum. There are many existing forums, including the NWCC and Canadian and European agencies as well as the expected USFWS guideline process. The CEC should participate in these forums and not attempt to duplicate them.

12. How should knowledge advances from PIER research be incorporated into revised guidelines?

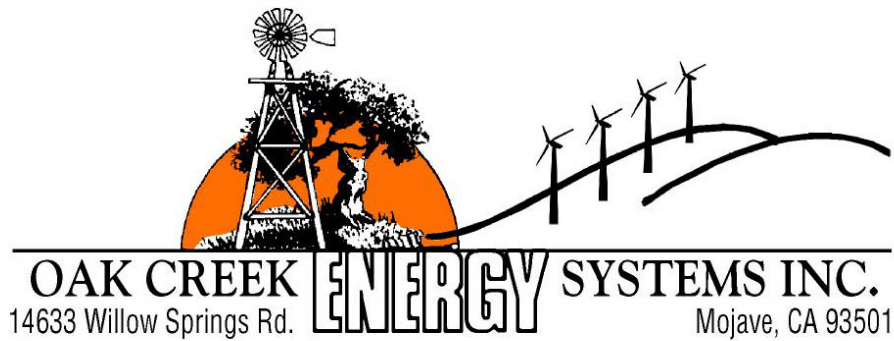
The guidelines should be based on principles, referencing the best ongoing forums and sources of information, so that they do not need to be continually updated. New applicable knowledge from either PIER research, or other peer reviewed research or applicant monitoring results should be contributed to the NWCC's annual conferences and proceedings on wind-wildlife research used to revise/amend the guidelines over time as appropriate.

September 28, 2006

1. What evidence do we have that the new, larger turbines reduce collision impacts to raptors compared to old turbines? To resident/migratory songbirds? To resident/migratory bats?

Preliminary reports appear to indicate that larger turbines reduce collision impacts for some raptors. For example, just south of Tehachapi, the Palmdale Water District utility scale turbine had registered no bird kills after 2 years of operation next to a reservoir with regular inspections with a 200'x 200'x10' high control fence around its perimeter. It is probably too soon to know that this is true for all species in all circumstances, but at least some improvement has been indicated. Relative to songbirds and bats, the answers to this question are really unknown. In fact, as far as can be determined, the reason(s) relative to bat behavior and turbines are completely unknown, with the exception that it appears that ultrasonic turbine noise is not an effect.

2. What elements of turbine design/siting can be changed during the pre-permitting phase of



development to reduce predicted impacts to birds and bats?

During the field planning it is possible to relocate turbines away from cliffs, wetlands, cols or deep ridge saddles, and towards the leeward side of hill tops to reduce take. However, since these relocations can reduce the potential energy generation of the moved location and might possibly result in a change to the type and size of turbines that may be used, such changes need to be considered very early in the planning process and balanced against other risk factors.

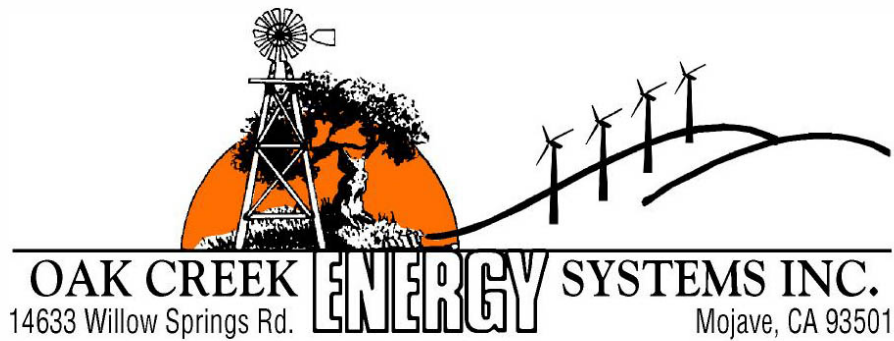
3. Are there examples (other than Foote Creek, WY) where information about site characteristics influenced turbine siting?

Certainly site characteristics are used to influence turbine siting, but in the past these have generally been the physical climatic characteristics. However, in many cases it likely is possible to use ecological site characteristics to modify turbine placement to reduce losses. However, the need to do this should be based upon biological reasons. If few birds are known from the area, it is not a known migratory corridor, it is not a known nesting area for sensitive species, additional siting considerations may not be necessary. However, it is agreed that common siting approaches that reduce losses for all birds without endangering the economy of a project should be implemented.

4. What kinds of Best Management Practices, general guidance on turbine siting/design, and other generic avoidance measures have been useful on past projects and should be included in the guidelines?

- Use of tubular vs lattice turbine towers
- Avoidance of locations upwind/in front of ridgeline where possible (to a location that reduces mortality without significant power loss)
- Avoidance of cols (deep saddles)
- Buffer zones to riparian and wetland areas as may be indicated by biological survey
- Taller/larger turbines
- Lower RPMs
- Reduced use of guyed meteorological towers *in high-risk areas*.

5. How can lead agencies establish an effective mechanism for implementing post-construction mitigation? (e.g., if a Technical Advisory Committee (TAC) is part of an adaptive management program, how are recommendations from the TAC translated into management action?)



CEQA requires a mitigation, monitoring and reporting plan in every CEQA document. In addition to the particular measures to be implemented, these plans are required to the schedule and responsible party(ies) for implementation, support and verification. If mitigation measures fail, or are determined to be inadequate, the trustee agencies are typically required to be notified. These same criteria would seem to be applicable to wind farm development as they are to other types of residential and commercial developments.

6. Are there examples of successful implementation of seasonal shutdowns or other operational mitigation in reducing collision fatalities?

Seasonal shutdowns would not be a feasible mitigation approach in most circumstances. If mitigation shutdowns are discussed at all, it should be in the context of dealing with episodic migration events, if and when those become predictable and affordable.

The use of this technique in the Altamont was brought about by a unique situation where high concentrations of old technology turbines still running in known high-risk areas resulted in extreme actions based on limited data, questionable science, and with benefit that is not known. Thus, consideration of the usage of this technique would be better left for a future update of the guidelines after results of the trial in the Altamont have been tabulated, analyzed and debated.

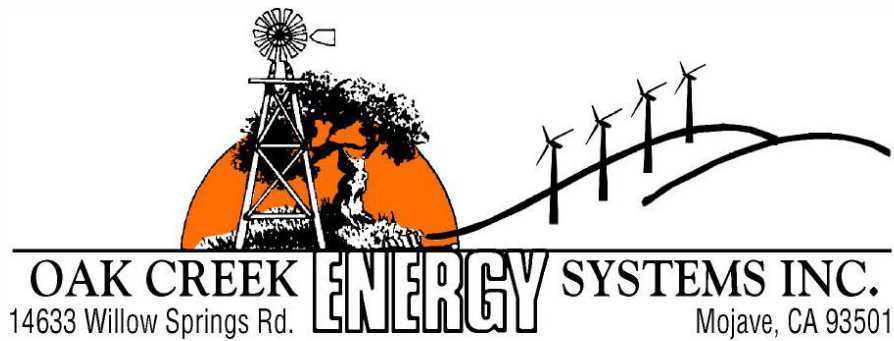
7. How can mitigation options be structured to provide: (a) some certainty for mitigation implementation, and (b) some certainty for financial risk for wind developers?

Under CEQA mitigation monitoring, reporting plans are required. Failure to comply with these plans can result in certain agency forfeiture of permits or other fines and violations, as applicable. Such failures also create nexes for lawsuits by any third party.

Under CEQA, CESA and FESA, mitigation has to be feasible. Feasibility can also be evaluated by the CEQA process. Feasibility is not necessarily limited by cost. However, with defined mitigation, monitoring and reporting plans, the financial limitations should be able to be determined.

8. How much detail should the guidelines include on mitigation options? For example, should the guidelines provide suggested language for avoidance and compensatory mitigation that could be used by a lead agency in their permit conditions?

This is possible we suppose. However, with our experience based on other agency mitigation guidelines over the past 20 years, the guidelines often fail to address all types of situations.



Some parameters could be set; however, the local agencies should be able to adjust the language to help ensure it is suitable for a particular site specific situation.

9. How can guidelines provide guidance on determining the nexus between impacts and compensatory mitigation, and the amount of mitigation?

Under federal mitigation guidelines, mitigation is required to be proportional to impacts. In other words, mitigation forever is not legally supported. Mitigation needs to be related to the type of impact when possible and progress reporting and schedules for planning, implementation and conclusion should be included in such plans.

10. Should compensatory mitigation programs for wind energy be established on a county/regional/statewide level? How would such programs be administered?

Compensatory programs are usually administered by land trusts or agency, non-profit and/or public committees. A wide representative would certainly be recommended to minimize the potential for conflict. Such programs should be operated with the utmost transparency in the public arena.

11. When is it acceptable for compensatory mitigation to include an option for contributing to a research fund?

In the case when lack of information leads to completely speculative impacts relative to species of concern (not common species), or the impossibility of determining impacts of a species at all for lack of life history information, then establishing an endowment fund that would be able to support research seems to be an appropriate approach.

12. What compensatory mitigation models (e.g., wetland or endangered species mitigation banks) would be appropriate for wind energy mitigation?

Mitigation banking and/or fee and the development of conservation areas may be a feasible approach for those large projects with significant adverse effects to species' populations or sensitive habitats, such as nesting, foraging or migration corridors. Certainly, compensatory mitigation should not be required in all circumstances. It is typically limited to impacts for threatened and endangered species and wetlands, for which no net loss is allowed by law. No such requirements exist for other than such circumstances, e.g. common species. Even though its eggs, nest and young are protected by the Migratory Bird Treaty Act, for example, the red-tailed hawk, appears in fact to be an increasing species. Consequently, no mitigation is required for loss of its habitat by any other type of development and should not be by wind farms either. Further, as a wide-spread species, the loss of its habitat as affected by wind